

Electro-Voice®
a gulton company

Model PL76B Condenser Cardioid Vocal Microphone

SPECIFICATIONS

Generating Element:

Electret condenser

Frequency Response (see Figure 3):

50 – 20,000 Hz

Polar Pattern (see Figure 4):

Cardioid

Impedance:

150 ohms balanced

Output Level:

–55 dB

(0 dB = 1 mW/10 dynes/cm²)

EIA Sensitivity:

–148 dB

Dynamic Range:

100 dB

Equivalent Noise Level:

Less than 30 dB SPL, A weighted

(0 dB = .0002 dynes/cm²)

Power Supply:

1.5-volt internal battery

(not included)

1.5 Volt Alkaline Cell

Approx. Life 5000 Hours:

Eveready E91

Mallory MN1500

Burgess AL9

Ray-O-Vac 815

RCA VS1334

1.5 Volt Carbon Zinc Cell

Approx. Life 3000 Hours:

Eveready 915

Mallory M15F

Switch:

On-off (battery and audio)

Pop Filter:

Built-in Acoustifoam™ filter

Case Material:

Diecast zinc & aluminum

Dimensions:

191 mm long (7.5 in.)

25.4 mm (1.0 in.) shank dia.

50.8 mm (2.0 in.) maximum dia.

Weight:

343 grams (12 oz) with battery

Finish:

Snow gray and charcoal

Accessories Furnished:

301 stand adapter

Vinyl carrying case

Optional Accessories:

376 windscreen

380 10 dB attenuator

502C matching transformer,

Lo-to Hi-Z inline

502CP matching transformer,

Lo to Hi-Z with plug

PLC-25-T 25' professional cable

w/A3F type connector at mike end

PLC-25-X 25' professional cable

w/A3F & A3M type connectors

PLC-25-P 25' professional cable

w/A3F connector at mike end and

phone plug at other

541 25' premium, long life cable

w/A3F type connector at mike end

542 25' premium, long life cable

w/A3F and A3M type connectors

544 50' premium, long life cable

w/A3F and A3M type connectors

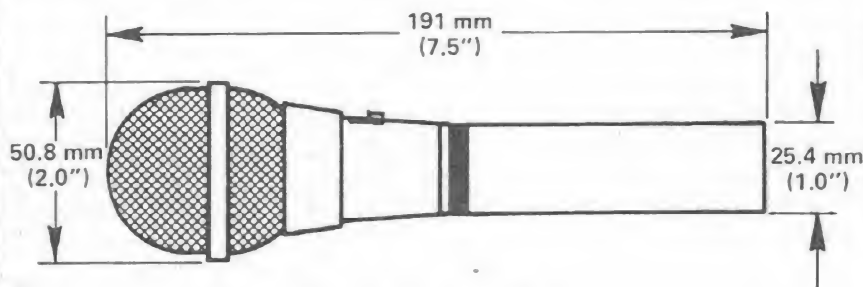


FIGURE 1 — Dimensions

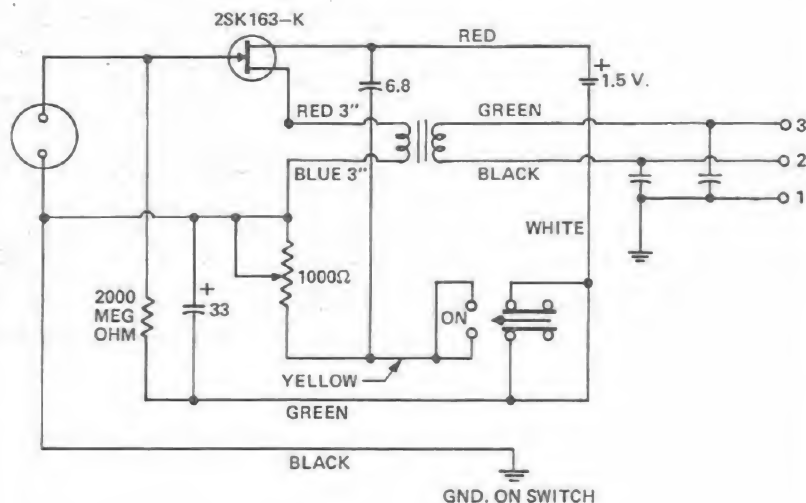


FIGURE 2 — Wiring Diagram

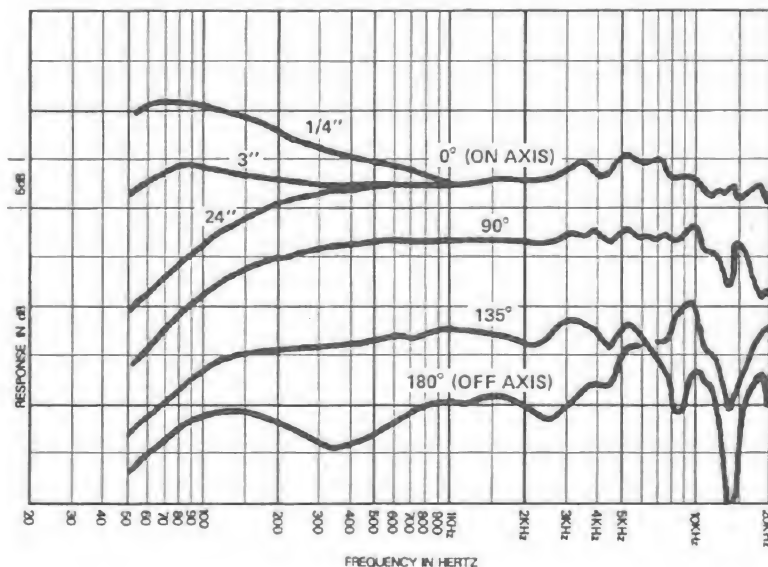


FIGURE 3 — Frequency Response

DESCRIPTION & APPLICATIONS

The Electro-Voice PL76B is a Single-D electret condenser cardioid microphone designed for the professional vocalist. The unusually extended, shaped high-frequency response provides a natural, transparent sound quality not available in the usual vocal microphones (see Figure 3). The Single-D design provides the up-close bass boost (proximity effect) preferred by many entertainers. Unusually uniform directional characteristics over the entire frequency range (see Figures 3 and 4) provide high feedback resistance when working close to sound reinforcement speakers and monitors. A built-in Acoustifoam™ blast filter enables close talking or singing without worry of "P-popping" or other excessive breath and sibilant noise. The very low mass of the generating element acts as an effective shock mount which keeps handling noise to a minimum. The rugged construction of the PL76B makes it unique among other condenser microphones. The case is constructed of rugged diecast zinc and the battery compartment sleeve is made of aluminum. The Memraflex grille screen resists deformation.

POWERING THE PL76B

Unlike normal condenser microphones, the electret condenser does not need a polarizing voltage because a permanent charge is captured in the diaphragm material. However, a small voltage with low current drain is necessary to power the FET impedance converter which must be used to lower the extremely high impedance of the electret head.

The PL76B features a newly designed impedance converter circuit specially developed to permit optimum performance from an internal battery of the commonly available 1.5 volt, AA size. The low current drain permits a projected useful life for a fresh alkaline cell to be in excess of six months of continuous operation. Battery life will of course be greatly extended by the simple expedient of turning the microphone off when not in use. If this precaution is observed a battery life well in excess of a year should be realized. As a battery approaches the end of its service life, a gradual but noticeable reduction in

microphone output level occurs, allowing replacement of the battery without a program interruption.

Access to the battery compartment is gained by unscrewing and pulling away the sleeve shown in Figure 5, exposing the battery clips. A 1.5 volt battery may be inserted, being sure to follow the polarization (plus and minus) label. Note that the battery lies on top of the black ribbon, which then serves as an aid in the later removal of the discharged battery. The common 1.5 volt, "Penlight," AA size cell will yield long and satisfactory service. (see "Specifications" section). Alkaline batteries are recommended because of much greater shelf life and less likelihood of leakage. However, with regular usage, a fresh carbon-zinc battery will give nearly as long a service life due to the low current drain of the PL76B.

INPUT REQUIREMENTS AND CONNECTIONS

The PL76B's 150-ohm balanced output is appropriate for the typical balanced input designed for low-impedance microphones. Usually, such inputs require a Switchcraft A3M-type three-pin audio connector, as shown in Figure 6.

The PL76B's output level is up to 6 dB higher than the typical low-impedance dynamic microphone. This higher-than-usual output level may overload some low-impedance inputs when the microphone is driven with very high sound pressure levels. Evidence of such overload is a rough, raspy sound quality — caused by clipping the first gain stage — that is not affected by the mixer's volume control. The optional 380, 10 dB in-line attenuator, reduces microphone output just ahead of the mixer input, thus removing the cause of the input overload.

The higher-than-usual output level of the PL76B also makes it appropriate for most medium-impedance and some high-impedance inputs, without the use of a matching transformer. Most medium- and high-impedance inputs are unbalanced, requiring the 1/4" phone plug connector shown in Figure 6.

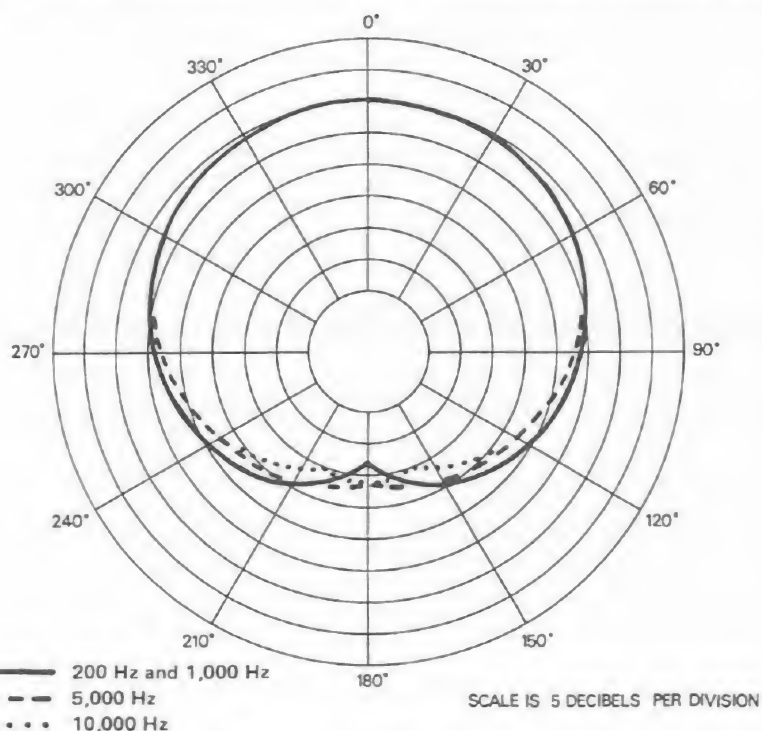


FIGURE 4 — Polar Response

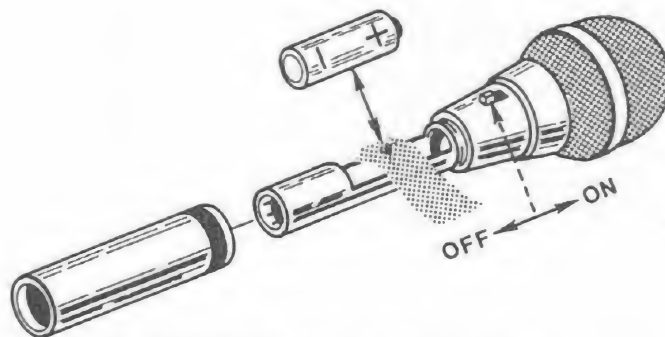


FIGURE 5 — Battery Replacement

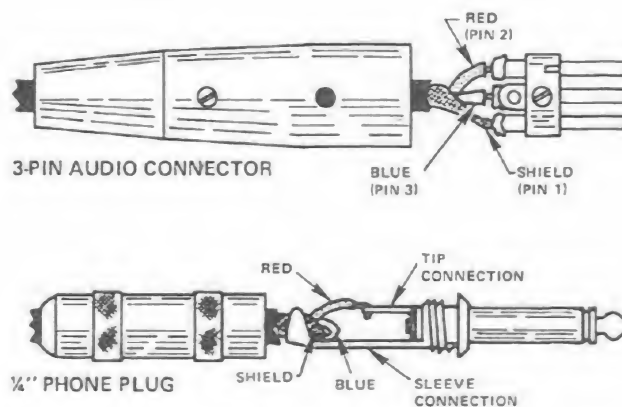


FIGURE 6 — 3-Pin Connector & 1/4" Phone Plug Wiring Connections

USING THE VARIABLE LOW-FREQUENCY RESPONSE (PROXIMITY EFFECT)

The PL76B's low-frequency response varies with the distance from the sound source to the microphone as shown in Figure 3. Maximum bass response is produced in close-up use with the microphone 1/4-inch from the sound source. Normal bass response is experienced at distances greater than 24 inches.

Useful special effects can be created by an imaginative application of the PL76B's proximity effect.

1. By working closer to the microphone, the human voice will sound more robust, although intelligibility may be adversely affected.
2. Working close to the PL76B provides a reduced tendency to PA system feedback, over and above that provided by the cardioid directional characteristic and close working-distance alone. When close-talked, the substantial bass boost provides an increase in overall microphone output level.

The mixer gain may be proportionately reduced, resulting in a reduction of the system's sensitivity to feedback caused by sound entering the microphone from the distant loudspeakers.

3. For musical instrument pickup, the variable bass response can be utilized to achieve a "clean" bass pickup at a distance of 24 inches or more. By moving the PL76B to a few inches from the instrument, bass will be increased.

MAINTENANCE INSTRUCTIONS

You have purchased one of the finest electret condenser microphones available. A little care will allow you continued use of this precision instrument for many years. Your electret condenser microphone should not be left in the open sun or other hot environments where temperatures may approach or exceed 54.4° C (130° F) for any period of time. Following this suggestion will prolong the life of the generating element.

If you feel your unit is malfunctioning, have it examined and repaired only by an Electro-Voice authorized repair service station.

WARRANTY (Limited) —

Electro-Voice Pro-Line Microphones (excluding Model PL88) are guaranteed unconditionally against malfunction from any cause for a period of two years from date of original purchase. Also, these microphones are guaranteed without time limit against malfunction in the acoustic system due to defects in workmanship and materials. If such malfunction occurs microphone will be repaired or replaced (at our option) without charge for materials or labor if delivered prepaid to the proper Electro-Voice service facility. Unit will be returned prepaid. (Any active electronics incorporated in a microphone are guaranteed for three years from date of original purchase against such malfunction.) Warranty does not cover finish, appearance items, cable, cable connectors, or switches. Defect guarantee does not cover malfunction due to abuse or operation at other than specified conditions. Repair by other than Electro-Voice or its authorized service agencies will void this guarantee.

The PL88 is guaranteed for two years from date of original purchase against defects in workmanship and materials.

For repair information and service locations, please write: Service Dept., Electro-Voice, Inc., 600 Cecil Street, Buchanan, Michigan 49107 (Phone: 616/695-6831) or Electro-Voice West, 8234 Doe Avenue, P.O. Box 3297, Visalia, CA 93277 (Phone: 209/651-7777).

Electro-Voice also maintains complete facilities for non-warranty service of EV products.

Specifications subject to change without notice.